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10/031.421	01/18/2002	Tomasz Rudas	283702-13	6591

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EXAMINER

BEISNER, WILLIAM H

ART UNIT PAPER NUMBER

1744

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/031,421

Applicant(s)

RUDAS, TOMASZ

Examiner

William H. Beisner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 Jan. 2002 (preliminary amendment).
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,6-10,13,17-23,25,28-32,35 and 39-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,6-10,13,17-23,25,28-32,35 and 39-53 is/are rejected.
- 7) ☒ Claim(s) 54-62 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement filed 05 April 2003 has been considered and made of record.

### ***Claim Objections***

2. Claims 54-62 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Note claim 54 has been written such that it depends from claim 1 and claim 45.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 45, 46, 48 and 49 are rejected under 35 U.S.C. 102(b) as being anticipated by Cotton (US 4,565,552).

With respect to claim 45, the reference of Cotton discloses a vessel for sequential anaerobic digestion and aerobic composting that includes a means (1) for receiving waste material; a first feed means (14) for supplying water to the vessel; a second feed means (11) for

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supplying air to the vessel; the first and second feed means positioned to evenly feed water and air to material in the vessel; and the vessel is devoid of any internal agitation means (See Figure 1).

With respect to claim 46, the feed means employ a plurality of feeder lines (11 and 14) in the walls of the vessel.

With respect to claim 48, the vessel is provided with a gas extraction line (17).

With respect to claim 49, the reference discloses that the vessel is made of a pressure-resistant material (See column 1, lines 63-65).

5. Claims 45, 46, 48 and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Isman (FR 2288719).

With respect to claim 45, the reference of Isman discloses a vessel for sequential anaerobic digestion and aerobic composting that includes a means (2) for receiving waste material; a first feed means (21,23) for supplying water to the vessel; a second feed means (4) for supplying air to the vessel; the first and second feed means positioned to evenly feed water and air to material in the vessel; and the vessel is devoid of any internal agitation means (See the Figure).

With respect to claim 46, the feed means employ a plurality of feeder lines (7, 23) in the walls of the vessel.

With respect to claim 48, the vessel is provided with a gas extraction line (12).

With respect to claim 53, the vessel is provided with drainage means (27) to remove liquid supplied to the vessel.

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***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 49-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isman (FR 2288719).

The reference of Isman has been discussed above.

While the reference of Isman discloses a vessel for collecting a pressured gas product through line (12), the reference is silent as to the specific pressures in which the vessel is designed to withstand.

However, based on the fact that the vessel is intended to be used for pressurized aeration and for the collection of gas product under pressure, it would have been obvious to one of

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ordinary skill in the art to construct the vessel so as to be resistant to the operation pressures associated with aeration and the generation of pressurized gas products.

With respect to the operating capabilities of the aeration system (7,8), based merely on the size of the reaction vessel and/or the volume and depth of material to be aerated, it would have been obvious to one of ordinary skill in the art to provide an aeration system that can provide the operation pressures required to optimize the aeration of the material to be treated in the vessel.

9. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Isman (FR 2288719) in view of Laurenson, Jr. (US 4,837,153).

The reference of Isman has been discussed above.

The above claim differs by reciting that the device includes at least one perforated lance for injecting the fluids into the material in the vessel.

The reference of Laurenson, Jr. discloses that it is known in the art to employ a perforated lance system for injecting fluids into a mass of material to be composted (See column 2, lines 4-12).

In view of this teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of the primary reference with lances as suggested by the reference of Laurenson, Jr. for the known and expected result of reducing pressure drop and dead spots within the vessel (See column 2, lines 13-22).

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10. Claims 1, 3, 6-10, 13 and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotton (US 4,565,552) in view of Sherman (US 2,337,686).

The reference of Cotton discloses a process for treating organic waste material that includes subjecting the contents of a vessel to aerobic fermentation in order to raise the temperature of the contents of the vessel to generally 60-75 deg. C. The process includes a step of depleting oxygen in the vessel (air flow stopped and the lid is sealed). Liquid is added from cistern (anaerobic inoculum) to the vessel (1) and gaseous byproducts are collected in gas-holder (16). After the methanogenic fermentation, the liquid in vessel (1) is drained back to cistern (12) and the treated waste material is removed (See column 2, line 15, to column 3, line 60).

Claim 1 differs by reciting that the process includes an additional aeration step prior to removing the waste material from the vessel.

The reference of Sherman discloses that it is known in the art to provide a final aeration treatment of the organic material before removal of the material after being subjected to aerobic prefermentation and an anaerobic fermentation (See column 2, lines 12-41).

In view of this teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a final aeration step as suggested by the reference of Sherman for the known and expected result of "lethallisation of all putrefactive bacteria" and dehydration of the final product (See page 3, column 1, lines 1-12).

With respect to claim 3, the temperature of the first aeration raises the temperature of the material to at least 60 deg. C.

With respect to claim 6, air is provided to the vessel prior to starting the aerobic decomposition (See column 2, lines 33-40, of Cotton).

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With respect to claims 7-9 and 17-19, while the reference of Cotton is silent as to the specific pressures employed to aerate the vessel, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the pressure based on considerations such as the size of the vessel and/or depth of the material to be aerated while ensuring that the entire contents of the vessel is properly aerated and no anaerobic pockets of material exist during the aerobic phases.

With respect to claims 10 and 20, the reference of Sherman discloses that it is known in the art to perform the prefermentation step at moisture content of at least 45% (See page 2, column 2, lines 21-36). As a result, if the starting material of the primary reference is not at the proper moisture content, it would have been obvious to one of ordinary skill in the art to add water as is suggested by the reference of Sherman.

With respect to claim 13, the reference of Cotton discloses the stoppage of airflow and the sealing of the vessel (See column 2, line 60, to column 3, line 15).

With respect to claim 21, the biogas produced is methane.

With respect to claim 22, the reference of Sherman discloses that the final aeration step stabilizes the waste material.

11. Claims 23, 25, 28-32, 35 and 39-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotton (US 4,565,552) in view of Sherman (US 2,337,686) taken further in view of Deneche et al.(DE 4409487).

The combination of the references of Cotton and Sherman has been discussed above.



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The above claims differ by reciting that the process is performed using a plurality of interconnected vessels and the water from one vessel is used to inoculate one of the other vessels.

The reference of Deneche et al. discloses that it is known in the art to perform aerobic/anaerobic treatments on organic waste using a plurality of interconnected vessels wherein the liquid from one vessel is used to inoculate one of the other vessels (See the English language abstract).

In view of this teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a plurality of interconnected vessel to perform the method of the modified primary reference for the known and expected result of increasing the volume of organic waste material that can be processed by the system.

With respect to claim 25, the temperature of the first aeration raises the temperature of the material to at least 60 deg. C.

With respect to claim 28, air is provided to the vessel prior to starting the aerobic decomposition (See column 2, lines 33-40, of Cotton).

With respect to claims 29-31 and 39-41, while the reference of Cotton is silent as to the specific pressures employed to aerate the vessel, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the pressure based on considerations such as the size of the vessel and/or depth of the material to be aerated while ensuring that the entire contents of the vessel is properly aerated and no anaerobic pockets of material exist during the aerobic phases.

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With respect to claims 32 and 42, the reference of Sherman discloses that it is known in the art to perform the prefermentation step at moisture content of at least 45% (See page 2, column 2, lines 21-36). As a result, if the starting material of the primary reference is not at the proper moisture content, it would have been obvious to one of ordinary skill in the art to add water as is suggested by the reference of Sherman.

With respect to claim 35, the reference of Cotton discloses the stoppage of airflow and the sealing of the vessel (See column 2, line 60, to column 3, line 15).

With respect to claim 43, the biogas produced is methane.

With respect to claim 44, the reference of Sherman discloses that the final aeration step stabilizes the waste material.

### *Conclusion*

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

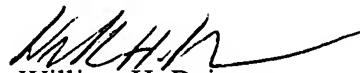
The reference of Schnoor (DE 4124880) is cited as prior art that pertains to a three step process for treating organic waste that includes aerobic, anaerobic and aerobic treatment of the waste. The reference is silent as to the operating temperatures and/or pressures.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Beisner whose telephone number is 703-308-4006 (571-272-1269 after 12/16/03). The examiner can normally be reached on Tues. to Fri. and alt. Mon. from 6:40am to 4:10pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Warden can be reached on 703-308-2920 (571-272-1281 after 12/16/03). The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



William H. Beisner  
Primary Examiner  
Art Unit 1744

WHB